

National Certificate in Motor Industry (Trailer Boat Systems Engineering) (Level 3)

Level	3
Credits	165

This qualification has been **reviewed**. The last date to meet the requirements is 31 December 2020.

Purpose

This certificate is designed as the national qualification for people working in the Trailer Boat Engineering industry. This qualification recognises the knowledge and skills required to carry out tasks required in trailer boat systems engineering. These include checking the operation of, and servicing, the mechanical, electrical and electronic components on engines and boats. The certificate is designed for those wishing to work in a safe and professional manner; to maintain standards for the trailer boat servicing industry; and to provide a means of recognising prior learning for those already working in the industry.

This certificate is a prerequisite for the National Certificate in Motor Industry (Trailer Boat Systems Engineering) (Level 4) [Ref: 0699].

Details regarding industry recognition and industry registration can be obtained from the NZ Motor Industry Training Organisation. Standards in this qualification have relevance to other automotive and marine engineering qualifications, and those people who wish to consider additional standards or qualifications should contact the NZ Motor Industry Training Organisation in the first instance.

Replacement Information

This qualification, the National Certificate in Motor Industry (Motorcycle Engineering) [Ref: 0015], National Certificate in Motor Industry (Automotive Engineering) [Ref: 0019], National Certificate in Motor Industry (Automotive Electrical Engineering) [Ref: 0137], National Certificate in Motor Industry (Outdoor Power Equipment Servicing) [Ref: 0697], and the National Certificate in Motor Industry (Trailer Boat Systems Engineering) (Level 4) [Ref: 0699] have been replaced by the National Certificate in Motor Industry (Automotive Electrical and Mechanical Engineering) (Level 3) with strands in Electrical and Electronics, Light Vehicle, Motorcycle, Outdoor Power Equipment, and Trailer Boat Systems [Ref: 1421] and the National Certificate in Motor Industry (Automotive Electrical and Mechanical Engineering) (Level 4) with strands in Electrical and Electronics, Light Vehicle, Motorcycle, Outdoor Power Equipment, and Trailer Boat Systems [Ref: 1422].

Special Notes

It is expected that most people will undertake training towards this qualification in the form of apprenticeship with the use of record of achievement books and training manuals. It is recommended that in the first instance, a “training plan” be developed with the assistance of a NZ Motor Industry Training Organisation representative.

Applications for recognition of prior learning should be made to the NZ Motor Industry Training Organisation or accredited training providers. Credits are not automatic and normally an assessment of ability is required.

Credit Range

	Compulsory	Elective
Level 1 credits	10	-
Level 2 credits	68	0-8
Level 3 credits	55	7-15
Level 4 credits	17	-
Minimum totals	150	15

Requirements for Award of Qualification

Award of NZQF National Qualifications

Credit gained for a standard may be used only once to meet the requirements of this qualification.

Unit standards and achievement standards that are equivalent in outcome are mutually exclusive for the purpose of award. The table of mutually exclusive standards is provided on the New Zealand Qualifications Authority (NZQA) website: <http://www.nzqa.govt.nz/qualifications-standards/standards/standards-exclusion-list/>.

Reviewed standards that continue to recognise the same overall outcome are registered as new versions and retain their identification number (ID). Any version of a standard with the same ID may be used to meet qualification requirements that list the ID and/or that specify the past or current classification of the standard.

Summary of Requirements

- Compulsory standards
- Elective – A minimum of 15 credits as specified

Detailed Requirements

Compulsory

The following standards are required

Computing and Information Technology > Computing > Generic Computing

ID	Title	Level	Credit
2780	Describe and operate a personal computer system	2	6

Engineering and Technology > Mechanical Engineering > Engineering - Measurement

ID	Title	Level	Credit
4432	Identify and convert basic units of measure used in engineering	1	1

Engineering and Technology > Motor Industry > Automotive Administration

ID	Title	Level	Credit
249	Carry out automotive industry personal workplace requirements	2	5
392	Maintain automotive stock and plant security	2	2

Engineering and Technology > Motor Industry > Automotive Electrical and Electronics

ID	Title	Level	Credit
232	Test an automotive electrical circuit	2	8
233	Service an automotive battery	2	2
234	Describe automotive starting and charging systems and their operation	2	4
235	Describe automotive ignition systems and their operation	2	3
898	Identify an automotive wiring diagram and translate information to a motor vehicle circuit	3	3
899	Carry out automotive wiring repairs and test circuits for serviceability	3	3
915	Service multiple battery installations on heavy commercial vehicles, machines, or units	3	2
5462	Explain the operation of automotive electronic ignition systems	4	5

Engineering and Technology > Motor Industry > Automotive Fuel Systems and Exhaust

ID	Title	Level	Credit
240	Demonstrate knowledge of petrol fuel systems	2	3
5459	Explain the operation of automotive electronic fuel injection systems	3	4
8183	Explain the operation, service checks, fault diagnosis, and repair of carburettors	3	8

Engineering and Technology > Motor Industry > Automotive Preventative Maintenance

ID	Title	Level	Credit
15409	Select and apply lubricants and sealants in a marine environment	2	2

Engineering and Technology > Motor Industry > Automotive Trailers

ID	Title	Level	Credit
15414	Maintain and repair a power boat trailer	4	4

Engineering and Technology > Motor Industry > Automotive Workshop Engineering

ID	Title	Level	Credit
227	Carry out general engineering tasks to repair and make automotive components	2	4
228	Select and use hand tools and workshop equipment for an automotive application	2	5
230	Repair and manufacture automotive components by oxy-acetylene gas welding	2	3
924	Clean automotive components and maintain cleaning equipment	2	1
16113	Demonstrate knowledge of safe working practices in an automotive workshop	2	2

Engineering and Technology > Motor Industry > Engine Repairs

ID	Title	Level	Credit
231	Explain the operation of two and four stroke petrol and diesel engines	2	4
244	Disassemble and assemble a four stroke engine	2	6
923	Carry out general repairs to a cylinder head	3	4
928	Demonstrate knowledge of, and repair a manual starting system on a small engine	2	2
3400	Check a four stroke petrol engine for condition using hand held test equipment	3	4
15436	Demonstrate knowledge of the construction, operation, and servicing requirements of outboard engines	2	4
15437	Service outboard engines	3	4
15439	Demonstrate knowledge of open and closed cooling systems on power boats	3	4
15447	Install a replacement engine to a power boat	3	4

Engineering and Technology > Motor Industry > Power Boat Systems

ID	Title	Level	Credit
5433	Describe the application of electricity and electronics for marine use	4	8
15450	Carry out a maintenance check and complete a pre-season service on a power boat	3	4
15454	Describe power boat propeller operation, types, servicing, and installation procedures	3	4

Manufacturing > Boating Industries > Marine Sales and Services

ID	Title	Level	Credit
9913	Demonstrate knowledge of the New Zealand boating industry	1	5
379	Identify and explain causes of material deterioration in the marine environment	2	2
9918	Launch and retrieve boats using trailer methods	3	4

Service Sector > Service Sector Skills > Selling Skills

ID	Title	Level	Credit
58	Complete a sales transaction in a given situation	1	2
379	Sell goods and/or services on an in-coming telephone call	3	3

Service Sector > Service Sector Skills > Service Sector - Core Skills

ID	Title	Level	Credit
56	Attend to customer enquiries face-to-face and on the telephone	1	2

Elective

A minimum of 15 credits

Engineering and Technology > Mechanical Engineering > Welding

ID	Title	Level	Credit
2677	Weld aluminium with the gas tungsten arc welding process in the downhand positions	3	6

Engineering and Technology > Motor Industry > Automotive Fuel Systems and Exhaust

ID	Title	Level	Credit
241	Describe the operation of a diesel fuel system and perform minor servicing tasks	2	3
930	Describe turbocharger operation, and service a turbocharger system on a vehicle or machine	3	3

Engineering and Technology > Motor Industry > Automotive Sales

ID	Title	Level	Credit
3382	Pick, pack, and dispatch automotive parts	2	3

Engineering and Technology > Motor Industry > Automotive Workshop Engineering

ID	Title	Level	Credit
914	Metal-arc gas shield (MIG) weld automotive components	3	4
950	Manual metal arc weld automotive components in flat and vertical positions	3	6

Engineering and Technology > Motor Industry > Panelbeating

ID	Title	Level	Credit
5764	Repair a damaged glass fibre reinforced plastic panel (GRP) using a repair kit in the motor industry	3	4

Engineering and Technology > Motor Industry > Power Boat Systems

ID	Title	Level	Credit
15455	Describe hydraulic type marine transmission operation and repair procedures	3	4
15456	Demonstrate knowledge of a stern drive type marine transmission	3	4
15457	Demonstrate knowledge of saildrive (S drive) transmission units, and repair them	3	4
15458	Identify the operation and servicing of power boat impeller propulsion systems (water jet units)	3	4
15459	Identify the operation and servicing requirements of surface piercing drive units fitted to boats	3	2
15467	Describe the construction, layout, and servicing requirements of power boat drive trains	3	6

Manufacturing > Boating Industries > Boatbuilding and Maintenance

ID	Title	Level	Credit
11777	Install production boat engine packages	3	3

Manufacturing > Boating Industries > Marine Sales and Services

ID	Title	Level	Credit
9917	Demonstrate knowledge of boatbuilding methods	2	2

Planning and Construction > Construction Trades > Carpentry

ID	Title	Level	Credit
13037	Use and maintain carpentry hand tools on site	3	8
13039	Use and maintain portable power tools for construction work on site	3	8

Planning and Construction > Construction Trades > Carpentry Theory

ID	Title	Level	Credit
12998	Demonstrate knowledge of carpentry hand tools	3	4
13000	Demonstrate knowledge of portable power tools used in construction work	3	4

Service Sector > Maritime > Maritime Engineering

ID	Title	Level	Credit
4103	Maintain the operating performance of vessel's engines, pumps, electrics, and auxiliary items	3	3
4107	Plan and record maintenance work on vessel deck fittings and hull	3	4

Transition Arrangements

Version 3

Version 3 of this qualification was issued to extend the expiry date, and subsequently republished in February 2011 to correct an error in the reverse transition table. It was republished in 2013 to include reverse transition arrangements for expiring standard 379 and again in 2016 for expiring standard 58.

Version 3 of this qualification contains standards that will expire in December 2013 (9915), December 2014 (379) and December 2016 (58). For the purposes of this qualification, people who have gained credit for the replacement standard are exempt from the requirement to gain credit for the expiring standards – see table below.

Credit for	Exempt from
23243	9915
26862	379
12009	58

Previous version of the qualification

Version 2 was issued to indicate that this qualification is expiring.

For detailed information see [Review Summaries](#) on the NZQA website.

This qualification, the National Certificate in Motor Industry (Motorcycle Engineering) [Ref: 0015], National Certificate in Motor Industry (Automotive Engineering) [Ref: 0019], National Certificate in Motor Industry (Automotive Electrical Engineering) [Ref: 0137], National Certificate in Motor Industry (Outdoor Power Equipment Servicing) [Ref: 0697], and the National Certificate in Motor Industry (Trailer Boat Systems Engineering) (Level 4) [Ref: 0699] have been replaced by the National Certificate in Motor Industry (Automotive Electrical and Mechanical Engineering) (Level 3) with strands in Electrical and Electronics, Light Vehicle, Motorcycle, Outdoor Power Equipment, and Trailer Boat Systems [Ref: 1421] and the National Certificate in Motor Industry (Automotive Electrical and Mechanical Engineering) (Level 4) with strands in Electrical and Electronics, Light Vehicle, Motorcycle, Outdoor Power Equipment, and Trailer Boat Systems [Ref: 1422].

Version 1 replaced the Trade Certificate in Power Boat Servicing with the National Certificate in Motor Industry (Trailer Boat Systems Engineering) (Level 3) and the National Certificate in Motor Industry (Trailer Boat Systems Engineering) (Level 4). The Trade Certificate in Power Boat Servicing will continue to be recognised by NZQA, MITO, and the industry. There is no requirement for people who hold the Trade Certificate in Power Boat Servicing to gain the national certificates.

People with an incomplete Trade Certificate in Power Boat Servicing after 31 December 2003 who wish to transfer to the National Certificate in Motor Industry (Trailer Boat Systems Engineering) (Level 3) [Ref: 0698] can have their existing achievements recognised through Recognition of Prior Learning Process (RPL). They are required to be registered on the Record of Learning and to pay the \$1.00 per credit and any additional costs associated with the RPL process.

Transition Table

Trade Certificate in Power Boat Servicing	Unit standards credited	Unit standards exempt	Unit standards still required for completion of National Certificate in Motor Industry (Trailer Boat Systems Engineering) (Level 3)
2 nd Assessment	227, 228, 230, 231, 232, 233, 234, 235, 240, 241, 244, 249, 898, 899, 915, 923, 924, 5433, 5459, 5462, 8183, 15409, 15414, 15436, 15437, 15439, 15447, 15450, 15454, 15455, 15456, 15457, 15458, 15459, 15467, 16113	56, 58, 379, 392, 928, 4432, 9913	2780, 9915, 9918, 3400

NZQF National Qualification Registration Information

Process	Version	Date	Last Date for Assessment
Registration	1	November 1999	December 2012
Review	2	August 2008	December 2012
Revision	3	November 2010	December 2016
Republished	3	February 2011	December 2016
Republished	3	January 2014	December 2016
Republished	3		December 2020

Standard Setting Body

NZ Motor Industry Training Organisation (Incorporated)
 PO Box 10803
 The Terrace
 Wellington 6143

Telephone 0800 88 21 21
 Facsimile 04 494 0006
 Email info@mito.org.nz

Other standard setting bodies whose standards are included in the qualification

Building and Construction Industry Training Organisation
 Competenz
 NZ Marine Industry Training Limited
 NZQA
 ServiceIQ

Certification

This certificate will display the logos of NZQA, the NZ Motor Industry Training Organisation (Incorporated), and the organisation that has been granted consent to assess against standards that meet the requirements of the qualification (accredited).

Classification

This qualification is classified according to the classification system listed on the Directory of Assessment Standards (DAS) and the New Zealand Standard Classification of Education (NZSCED) system as specified below.

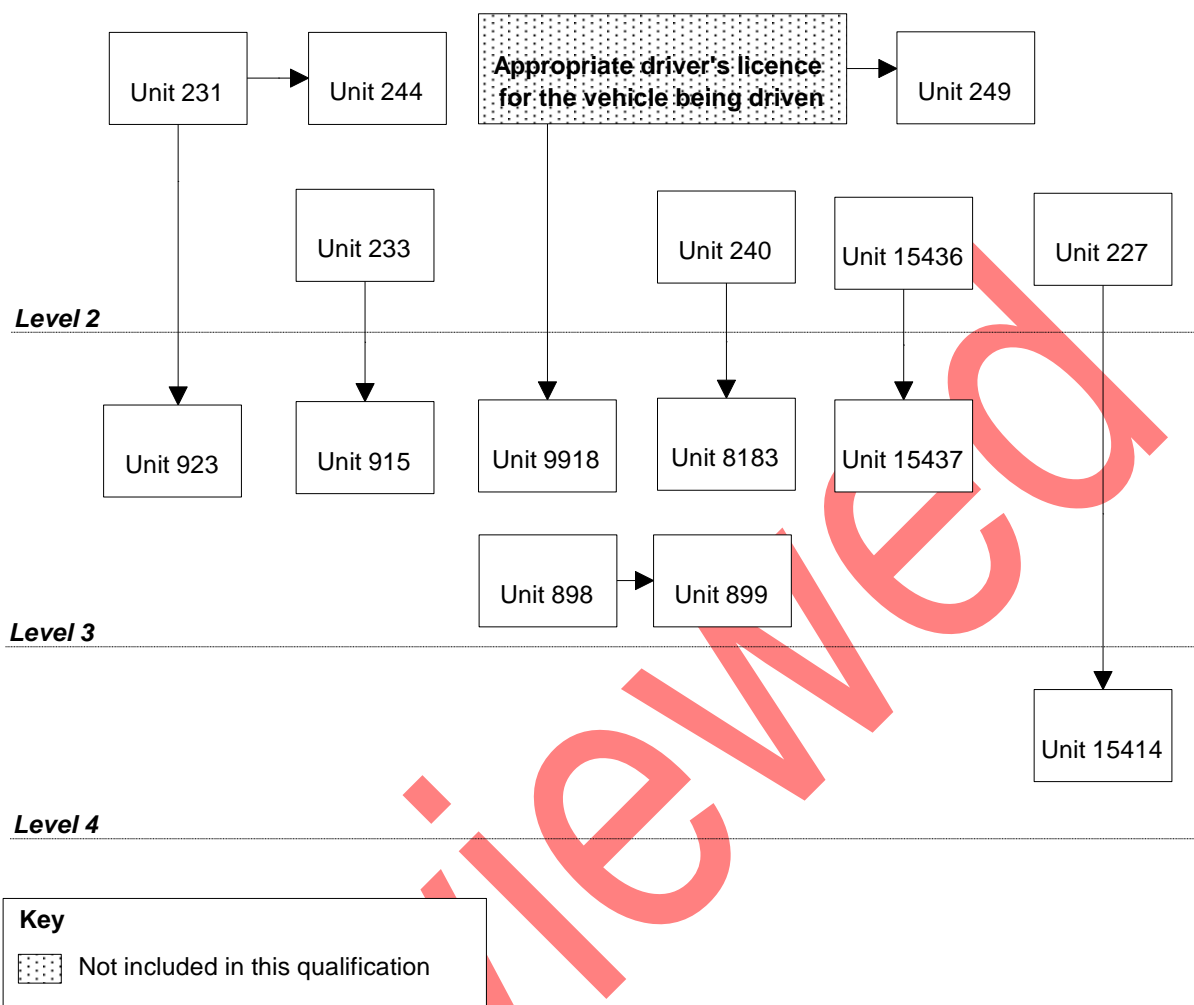
DAS Classification		NZSCED	
Code	Description	Code	Description
257	Engineering and Technology > Motor Industry	031701	Engineering and Related Technologies > Maritime Engineering and Technology>Maritime Engineering

Quality Management Systems

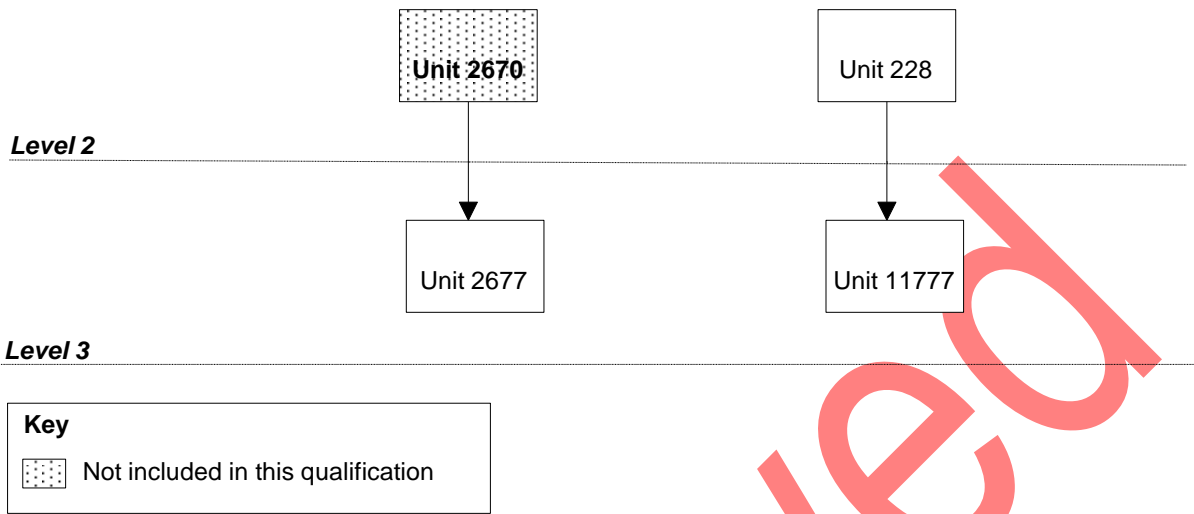
Providers and Industry Training Organisations must be granted consent to assess by a recognised Quality Assurance Body before they can register credits from assessment against standards. Organisation with consent to assess and Industry Training Organisations assessing against standards must engage with the moderation system that applies to those standards. Consent to assess requirements and the moderation system are outlined in the associated Consent and Moderation Requirements (CMR) for each standard.

Reviewed

Prerequisite Diagram – compulsory unit standards



Prerequisite Diagram – elective unit standards



Reviewed